

Creating a New Path to State Goals and a Sustainable Future



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California's Aggressive Goals

All new
residential
construction in
California will be
ZNE by 2020

50% of existing
commercial
buildings will be
retrofit to ZNE by
2030

All new
commercial
construction will be
ZNE
by 2030

All new &
major renovations
of **state** buildings
shall be ZNE 2025;
50% at 2020

**Greenhouse
gas emissions**
are reduced to
40% below the
1990 level by
2030

Building by Building District or Community Scale enough!

- Does not impact outside of building
- Does not leverage larger scale infrastructure projects
- Disconnected from business models and other needs
- Every building cannot be ZNE
- May not be economically feasible



City of Berkeley ZNE Library

Identifying a District

Downtown/Commercial



Educational Campus



Major New Development



Residential

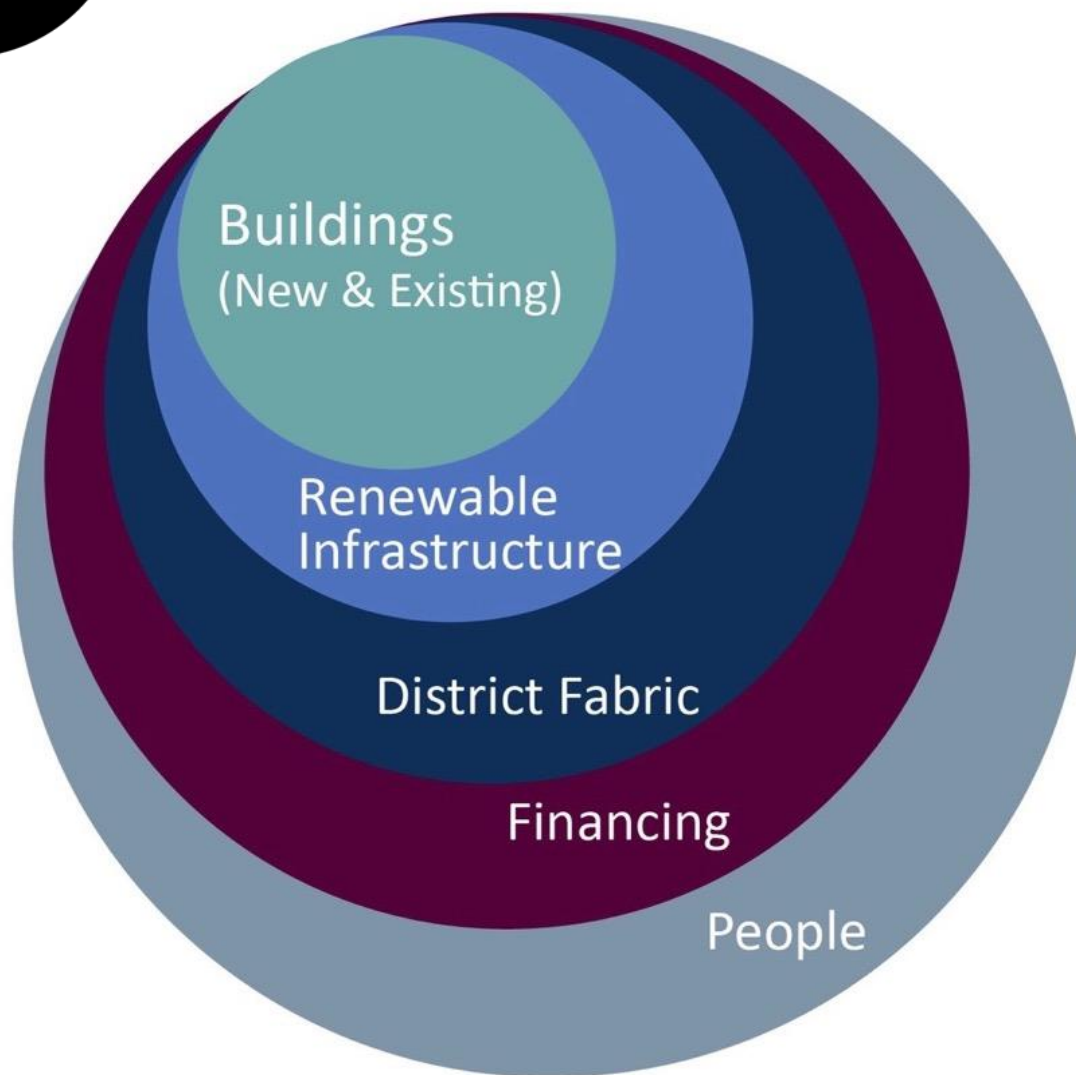


Context matters!





Framework



- **Buildings:** New & Existing, Design to Operation; Technology
- **Renewables:** Energy Efficiency, Solar, Storage, District Energy
- **District Fabric:** Transportation, Water, Landscape, Streetscape, Waste, etc
- **Financing:** District-Wide enabled financing tools
- **People:** Decision Makers, Owners, Businesses, Policy Makers, Local Government

Infrastructure Imperative

AMERICA'S
G.P.A. **D+**

ESTIMATED INVESTMENT
NEEDED BY 2020:

\$3.6 TRILLION

INFRASTRUCTURE GRADES FOR 2013

 ENERGY	D+	 SCHOOLS	D	 PUBLIC PARKS & RECREATION	C-
 TRANSIT	D	 ROADS	D	 RAIL	C+
 PORTS	C	 INLAND WATERWAYS	D-	 BRIDGES	C+
 AVIATION	D	 WASTEWATER	D	 SOLID WASTE	B-
 LEVEES	D-	 HAZARDOUS WASTE	D	 DRINKING WATER	D

Multiple Benefits, Multiple Audiences



Water
Conservation



Alternative
Transportation

Economic
Development



Energy



Storm Water
Management

Leverage Existing Entities and Districts



EIFD - Enhanced Infrastructure Financing District (SB 638/AB 313)

- Type of Infrastructure Property Tax Increment Financing
- Finance wide variety of public infrastructure and private facilities (not schools)
 - Affordable Housing & Mixed-Use Development
 - Transit Priority Projects
 - Projects for Sustainable Communities Strategies
- Can combine revenue from other sources (e.g. Lighting and Landscaping District, Community Facilities District.)
- Creation of a Public Facilities Authority to manage
- Voter approval NOT required but Counties & Cities must coordinate.

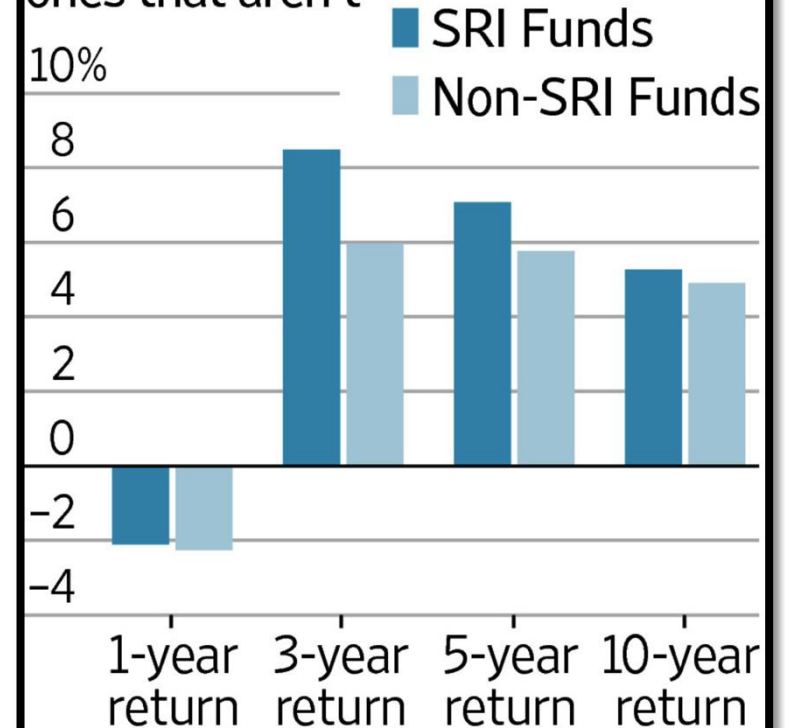
The legislation emphasizes projects that support sustainable community goals, energy efficiency, and reducing the carbon footprint of California's economy.

Social Responsible Investing (SRI) Environment, Social and Corporate Governance (ESG)

- From 2012 to 2014, the number of U.S. investment funds incorporating ESG criteria jumped 28 percent, and their assets more than quadrupled, to **\$4.3 trillion**
- “The year 2015 might well have been when sustainable investing became sustainable.”
Wall Street Journal
- Developing projects at District Scale creates an opportunity for an investment level project that can attract financing.

Competitive Returns

Performance of 'sustainable' (or SRI) mutual funds versus ones that aren't



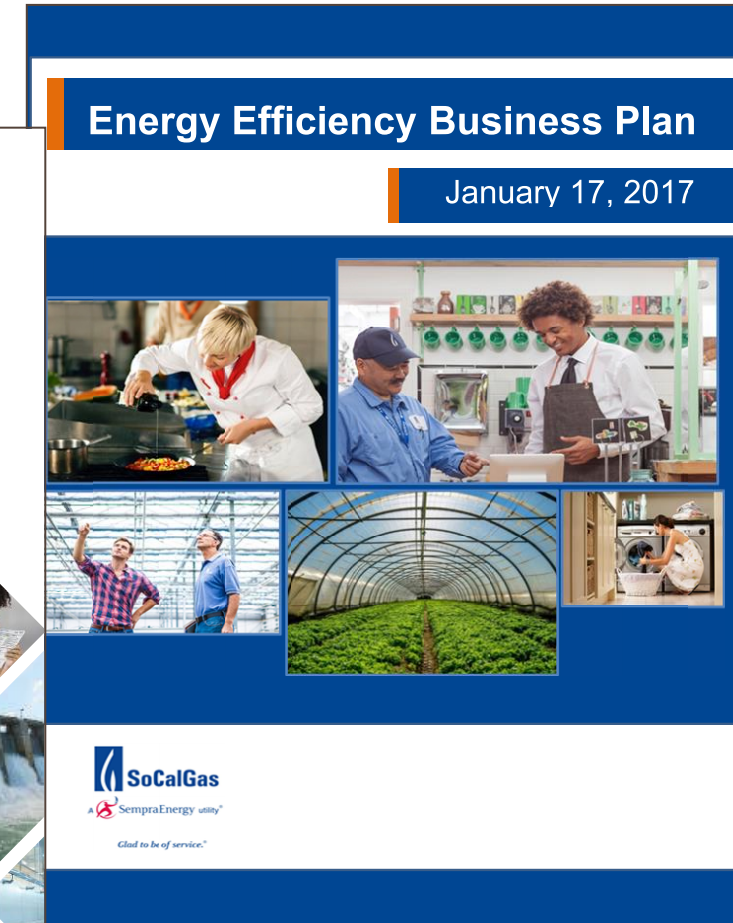
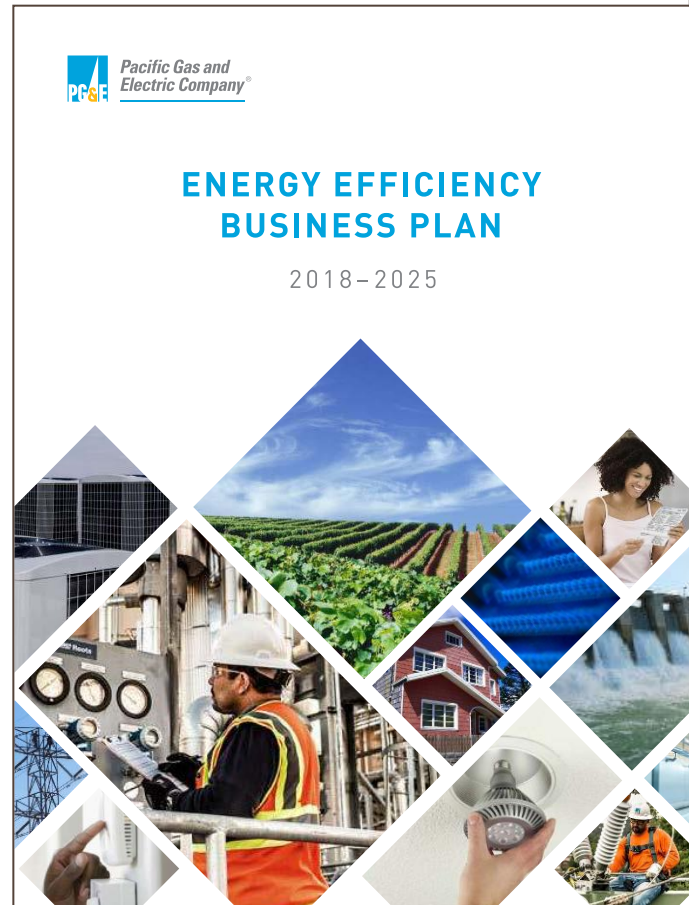
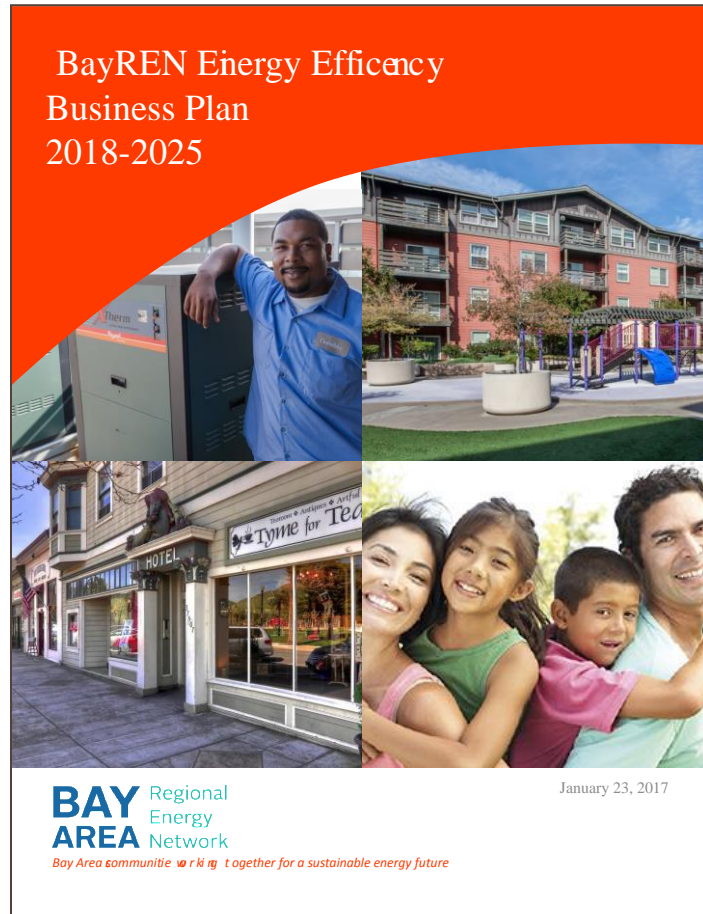
Source: © 2015 Morningstar, Inc.

THE WALL STREET JOURNAL.

Energy Performance District (AB 758)

- Pilot by Local Government or REN
 - LG identifies “district”—potentially in connection with a business improvement district, residential neighborhood, or other assessment area
 - An energy savings goal is developed (such as 20% annually) along with a 2–5 year plan to achieve those savings.
 - LGs are awarded with funding for achieving its goals and maintaining long-term performance in the district.
 - Fresno Advance Energy Communities is considering piloting
- => Will CEC fund? Local Government Challenge Potential? TBD

\$1 Billion Energy Efficiency Business Plans



CEC EPIC Grants

Anticipated Solicitations			
Solicitation Title	Release Date	Program Area/Strategic Objective	Estimated Funding Amount
Advance the Resilience and Environmental Performance of California's Electricity System	Jun. 2017 – Aug. 2017	Applied Research and Development (S5)	\$6.4 million
Demonstrating the Commercial Business Case for Microgrids that Supports California's Aggressive Energy and GHG Reduction Policies and Integrates New and Emerging Technologies	Jun. 2017 – Aug. 2017	Technology Demonstration and Deployment (S15.1)	\$44.7 million
Sharing California's Energy Innovations: Communicating EPIC Research through Special Events, Forums and Multimedia Production	Jun. 2017 – Aug. 2017	Market Facilitation (S18)	\$6 million
Increase Adoption of Emerging Clean Energy Technologies through Procurement	Jun. 2017 – Aug. 2017	Market Facilitation (S19)	\$30 million
Increase the Value of DER and Renewables to the Transmission and Distribution System: Gaps Analysis of RD&D Needs	Jul. 2017 – Sept 2017	Market Facilitation (S21)	\$500,000
Improve the Cost-Competitiveness of Renewable Generation: Gaps Analysis of RD&D Needs	Jul. 2017 – Sept 2017	Market Facilitation (S21)	\$350,000
Modeling Tools to Evaluate Distributed Energy Resources (DERs) and Microgrids Located Behind the Meter on California's Modern Distribution System	Jul. 2017 – Sept 2017	Applied Research and Development (S7)	\$9 million
Programmatic Approach to Existing Buildings Research, Development and Demonstration Program	Aug. 2017 – Oct. 2017	Applied Research and Development (S1)	\$30 million
[potential for three programmatic awards for projects in Northern California, Southern California and Disadvantaged Communities]		Technology Demonstration and Deployment (S12)	

Districts In the Works

- EcoDistricts
- 2030 Districts
- Fort Collins ZED
- Georgetown Prize
- Star Communities
- CEC Advanced Energy Communities
- DOE Districts Accelerator



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